CLAIMS

1. An antenna terminal positioning structure for a radio-frequency identification device having an electrical pad mounted on an electronic integrated circuit (IC), the structure comprising:

a wall assembly mounted on said electronic IC and having at least one wall surface extending from the IC so as to be aligned with a target area on the electrical pad; said target area being sufficiently large to receive an antenna terminal of a radio-frequency identification device;

whereby abutting said antenna terminal against said at least one wall surface allows positioning the antenna terminal on the electrical pad.

2. A positioning structure as recited in claim 1, wherein the electrical pad is composed of first and second miniature pads internally electrically connected together, and so positioned relative to each other as to yield an inter-spacing between them; said target area being positioned within said inter-spacing; said wall assembly including a first wall, defining a first wall surface, mounted on said first miniature pad adjacent said target area on a first side thereof so that said first wall surface is aligned with the target area.

3. A positioning structure as recited in claim 2, wherein said wall assembly further includes a second wall, defining a second wall surface, mounted adjacent said target area on said second miniature pad opposite said first side of the target area so as to be aligned with said target area.

4. A positioning structure as recited in claim 3, wherein said wall assembly further includes a second wall mounted on a protective layer of said electronic circuit surface on the same side as said first side relatively to the target area; said second wall being so configured and sized as to define a second wall surface aligned with said target area.

5. A positioning structure as recited in claim 1, said wall assembly includes a rectangular body extending from the electronic circuit surface.

6. A positioning structure as recited in claim 1, said at least one wall surface includes two opposite surfaces defining a groove generally aligned with said pad.

7. A positioning structure as recited in claim 6, wherein said two opposite surfaces are two facing concave surfaces.

8. A positioning structure as recited in claim 6, wherein said two opposite surfaces are two facing skew surfaces, defining a tapered groove generally aligned with said target area on the electrical pad.

9. A positioning structure as recited in claim 6, wherein each of said two opposite wall surfaces extends generally perpendicularly from the electronic circuit surface.

10. A positioning structure as recited in claim 1, wherein said wall assembly includes two spaced hemispheres, each defining a surface that is tangentially aligned with said target area.

11. A positioning structure as recited in claim 1, wherein the radio-frequency identification device have two electrical pads; said wall assembly includes two external rectangular-shaped portions and an internal generally square-shaped portion made of an electrically non-conductive material; said two external rectangular-shaped portions and said internal generally square-shaped portion being generally parallel and being consecutively distanced so as to yields two interspaces that are generally aligned with a respective target area.

12. A positioning structure as recited in claim 1, wherein said wall assembly is made from a material deposited on the electronic IC.

13. A positioning structure as recited in claim 12, wherein said material deposited on the electronic IC is selected from the group consisting of polymide and ultra-violet glue.

14. A positioning structure as recited in claim 12, wherein said material is electrically conductive.

15. A positioning structure as recited in claim 12, wherein said material is electrically non-conductive.

16. A positioning structure as recited in claim 1, wherein said wall assembly includes a first wall, defining a first wall surface,

mounted on the electrical pad adjacent the target area on a first side thereof so that said first wall surface is aligned with the target area.

17. A positioning structure as recited in claim 16, wherein said wall assembly further includes a second wall, defining a second wall surface, mounted adjacent said target area on a second side opposite said first side of the target area so as to be aligned with said target area.

18. A positioning structure as recited in claim 16, wherein said wall assembly further includes a second wall mounted on a protective layer of said electronic circuit surface on the same side as said first side relatively to the electrical pad; said second wall being so configured and sized as to define a second wall surface aligned with said target area.

19. A positioning structure as recited in claim 18, wherein said first wall is triangular prism-shaped and said second wall surface is convex and is substantially tangentially aligned with the target area.

20. A positioning structure as recited in claim 1, wherein said geometry structure is mounted on a protective layer on said electronic circuit surface.

21. A positioning structure as recited in claim 1, wherein said wall assembly includes two facing concave surfaces extending generally perpendicularly from the electronic IC so as to be generally aligned with said target area.

22. A positioning structure as recited in claim 1, wherein said electronic IC is selected from the group consisting of a radio-frequency identification device microchip, a micro sensor microchip or and micro electronic machine (MEM).

23. A method for positioning an antenna terminal of a radio-frequency identification device on an electrical pad of an electronic circuit, the method comprising:

providing on the electronic circuit a wall assembly that has at least one wall surface extending from the electronic circuit so as to be aligned with a target area on the electrical pad; said target area being sufficiently large to receive an antenna terminal from the radio-frequency identification device; and

contacting the antenna terminal with said at least one wall surface, while ensuring that a portion of said antenna terminal is at the height of the electrical pad.

24. A method as recited in claim 23, further comprising:

securing the terminal antenna to said wall assembly.

25. A method as recited in claim 23, wherein said providing on the electronic circuit a wall assembly is achieved by lithography.

26. A method as recited in claim 25, wherein said wall assembly includes two parallel rectangular-shaped bodies extending from the electronic circuit so as to define an inter-space D therebetween; each of said two parallel rectangular-shaped structures having a thickness h.

27. A method as recited in claim 26, wherein sharp edges are obtained on said two parallel rectangular-shaped structures by controlling the lithography process so as to yield a D/h ratio greater than a predetermined minimum design rule.

28. A method as recited in claim 26, wherein a .V-shaped groove is obtained as said inter-space by controlling the lithography process so as to yield a D/h ratio lower than a predetermined minimum design rule.

29. A method as recited in claim 23, wherein said electronic circuit is a microchip; said providing on the electronic circuit a wall assembly is achieved by etching embedded layers of said microchip, so as to yield a rounded-edge rectangular body.

30. A method as recited in claim 23, wherein the terminal antenna is secured to said wall assembly by activating a mechanical attachment between the antenna terminal and said wall assembly.

31. A method as recited in claim 30, wherein connecting the terminal antenna to the electrical pad is performed simultaneously to activating a mechanical attachment between the antenna terminal and said wall assembly.

32. A method as recited in claim 30, activating a mechanical attachment between the antenna terminal and said wall

assembly is achieved using process selected form the group consisting of thermo-compression, ultra-violet (UV) soldering, laser soldering, mono - components gluing, and bi-components gluing.

33. A method as recited in claim 23, wherein said wall assembly includes two opposite parallel walls extending from said electronic circuit surface defining a groove generally aligned with said pad; each of said two opposite parallel walls having a top surface parallel to said surfaces; contacting the antenna terminal with said at least one wall surface is achieved by swiping the antenna terminal onto said top surfaces of said two opposite parallel walls until the antenna terminal engages said groove.